

Applicant also previously canceled Claims 3-5 and 9 without prejudice or disclaimer. The Applicant does not presently amend, cancel or add any claims. Accordingly, Claims 1-2, 6-8 and 10-12 are currently pending in the application.

**I. Rejection of Claims 1-2 and 6-8 under 35 U.S.C. §112**

The Examiner has rejected Claims 1-2 and 6-8 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Apparently the phrase “the first and second electrodes are each defined by an opening that extends through the stop layer and the layer” set forth as an incomplete sentence on page 2 of the Examiner’s action is the claim element deemed objectionable. The Applicant respectfully disagrees and calls the Examiner’s attention to the description on page 5 of the Application regarding how the capacitor openings are formed. The statement is made that “... the capacitor openings 127 are opened in the first insulation layer 105, the etch stop layer 110, and the second insulation layer 115.” (Page 5, lines 1-2). Thus, the openings extend through the layer including the stop layer. When a conductive layer is subsequently deposited in the capacitor openings 127, as described on page 6, lines 9-21, these openings define the electrodes of the capacitor. A similar description is set forth on page 10, lines 9-14; Page 9, lines 6-12. A person of ordinary skill in the art would understand the description as describing first and second electrodes defined by an opening that extends through the stop layer and the layer. Thus, the Applicant respectfully requests the Examiner to withdraw his rejection of Claims 1-2 and 6-8 under 35 U.S.C. §112, first paragraph.

## II. Rejection of Claims 1-2, 6-8 and 10-12 under 35 U.S.C. §102

The Examiner has rejected Claims 1-2, 6-8 and 10-12 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,346,454 to Sung, *et al.* (Sung). As the Examiner is no doubt aware, anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference; the disclosed elements must either be disclosed expressly or inherently and must be arranged as in the rejected claims.

At the outset, it should be noted that Sung and the present application are commonly owned and that Sung was not based on an international application. Thus, the rejection under 35 U.S.C. §102(e) should be withdrawn for these reasons alone. The Examiner correctly points out that the changes made to 35 U.S.C. §102(e) by the AIPA and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an *international application* filed before November 29, 2000. However, as just stated above, Sung did not directly or indirectly result from an *international application*. Thus, the prior art date of the reference is not determined under 35 U.S.C. §102(e) as it read prior to being amended by the AIPA.

In addition to Sung not being a valid reference, Sung also does not disclose the Applicant's invention. Sung describes an integrated circuit device and method of making it. The device includes an interconnect structure and a capacitor with upper and lower metal electrodes. The device is made by forming a dielectric layer adjacent a semiconductor substrate, and simultaneously forming a first opening for the interconnect structure and a second opening for the capacitor in the dielectric layer. The capacitor is completely formed by forming the upper and lower metal electrodes with a capacitor dielectric therebetween in the second opening. (Abstract). Because,

Sung describes forming a single opening in a substrate for a capacitor and not forming two openings in the substrate for a capacitor, Sung does not disclose each and every element of the claimed invention. Therefore, Sung is not an anticipating reference for independent Claims 1 and 10. Because Claims 2, 6-8 and 11-12 are each dependent upon either Claim 1 or Claim 10, Sung also cannot be an anticipating reference for Claims 2, 6-8 and 11-12. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102(e) rejection of Claims 1-2, 6-8 and 10-12 with respect Sung.

The Examiner has also rejected Claims 1-2, 6-8 and 10-12 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,228,711 to Hsieh. Hsieh fails to teach or suggest forming at least two openings in a layer for a capacitor having a first electrode and a second electrode, with each electrode being defined by an opening that extends through the layer and a stop layer included in the layer, as recited in Claim 1 and analogously in Claim 10. More specifically, Hsieh fails to teach or suggest a second capacitor electrode defined by an opening that extends through a layer and its stop layer. In contrast, Hsieh discloses two identical capacitors each having a first electrode 348a defined by a dual damascene opening 346 in dielectric layers 320, 326 and 330 and a second electrode 358 substantially defined by an opening in a hemispherical-grained silicon layer 350a employed as the capacitor dielectric. (FIG. 3I and 3J; column 6, lines 18-60). Thus, Hsieh teaches a second electrode 358 defined by an opening in the capacitor dielectric 350a, rather than in the layers 320, 326 and/or 330, as required by the claims of the present application. Moreover, Hsieh provides no suggestion, motivation or mere mention of forming an opening that defines a second capacitor electrode because doing so would decrease capacitance values and increase capacitor spacing/size requirements, complexity and costs, in direct contrast to the objectives outlined in

Hsieh. (Column 3, lines 15-33). Thus, Hsieh does not disclose each and every element of the claimed invention and, as such, is not an anticipating reference for independent Claims 1 and 10. Because Claims 2, 6-8 and 11-12 are each dependent upon either Claim 1 or Claim 10, Hsieh also cannot be an anticipating reference for Claims 2, 6-8 and 11-12. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102(e) rejection of Claims 1-2, 6-8 and 10-12 with respect to Hsieh.


## **II. Conclusion**

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 1-2, 6-8 and 10-12.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

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